

40059-0007

10/686,111

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A universal shift apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

(a) a reel unit ~~for collecting the rope, the reel unit being mounted to freely rotate about the rotatable drive shaft;~~

(b) a drive cone unit ~~for collecting the swimming pool cover, the drive unit being mounted to freely rotate about the rotatable drive shaft-assembly;~~

(c) a gear drive assembly-gear mechanism driven by the rotatable drive shaft, and adapted for driving the reel unit in a first rotational direction as the drive shaft rotates in a first direction, and adapted for driving the drive cone unit in a second rotational direction as the drive shaft rotates in a second direction; and

(d) a shift member assembly-associated with the gear drive assembly-gear mechanism to selectively reverse the first rotational direction of the reel unit and to selectively reverse the second rotational direction of the drive cone unit, ~~wherein the shift assembly includes a pivot member adapted to engage the reel unit and the drive unit, and wherein the -pivot member-shift member~~ is adapted to pivot in one direction to engage the reel unit when the rotatable drive shaft is rotated in the first direction, and wherein the ~~-pivot member-shift member~~ is adapted to pivot in a second direction to engage the drive cone unit when the rotatable drive shaft is rotated in the second direction.

2. (Currently Amended) The apparatus of claim 1, wherein the reel unit is adapted to collect the rope and extend the swimming pool cover as the shaft moves in the first rotational direction, and the drive cone unit is adapted to collect and retract the swimming pool cover as the shaft moves in the second rotational direction.

3. (Cancelled)

4. (Currently Amended) The apparatus of claim 1, wherein the ~~shift assembly-gear mechanism~~ includes a shift base ~~base member~~ on the rotatable drive shaft for mounting the

40059-0007

10/686,111

~~pivot member~~ shift member to enable the ~~pivot member~~ shift member to pivot with the pull of gravity.

5. (Cancelled)

6. (Currently Amended) The apparatus of claim 4-1, wherein the ~~pivot member~~ shift member is mounted on the shift base ~~base member~~ so as to pivot at approximately 45 degrees with respect to the longitudinal axis of the rotatable drive shaft.

7. (Currently Amended) The apparatus of claim 1, wherein the ~~shift assembly~~ gear mechanism comprises a shift base associated with the gear assembly and configured to transform the gear mechanism assembly to drive the drive cone unit as the rotatable drive shaft rotates in the first direction, and to transform the gear mechanism assembly to drive the reel unit as the rotatable drive shaft rotates in the second direction.

8. (Currently Amended) The apparatus of claim 7, wherein the shift base is adapted to be removably attached to the rotatable drive shaft, and the gear mechanism assembly is attached to the shift base.

9. (Previously Presented) The apparatus of claim 8, wherein the shift base is adapted to be removably attached to the rotatable drive shaft in a first position and a second position.

10. (Previously Presented) The apparatus of claim 9, wherein the second position of the shift base on the rotatable drive shaft is disposed approximately 90 degrees from the first position.

11. (Currently Amended) The apparatus of claim 1, further comprising a torque limiter mounted on the rotatable drive shaft, the gear mechanism assembly being associated with the torque limiter.

12. (Currently Amended) The apparatus of claim 11, wherein the gear mechanism ~~shift assembly~~ is associated with the torque limiter.

40059-0007

10/686,111

13. (Currently Amended) A universal shift apparatus, comprising:
- (a) a rotatable drive shaft;
  - (b) a reel unit ~~for collecting a rope, the reel unit being~~ mounted to freely rotate about the rotatable drive shaft;
  - (c) a drive cone unit ~~configured to be coupled to a roll-up tube for collecting a peel~~ ~~cover, the drive unit being~~ mounted to freely rotate about the rotatable drive shaft; and
  - (d) a gear mechanism assembly mounted to be driven by the rotatable drive shaft, the gear mechanism assembly including a shift member configured to pivot to a first position to engage and drive the reel unit as the rotatable drive shaft moves in a first rotational direction and to pivot to a second position to engage and drive the drive cone unit as the rotatable drive shaft moves in a second rotational direction.
14. (Previously Presented) The apparatus of claim 13, wherein the reel unit includes first drive lugs thereon for engaging the shift member as the rotatable drive shaft moves in the first rotational direction.
15. (Currently Amended) The apparatus of claim 13, wherein the drive cone unit includes second drive lugs thereon for engaging the shift member as the rotatable drive shaft moves in the second rotational direction.
16. (Currently Amended) The apparatus of claim 13, wherein the shift member is mounted on a shift base of the gear mechanism assembly to pivot in response to gravity.
17. (Previously Presented) The apparatus of claim 13, wherein the shift member is configured to pivot at approximately a 45 degree angle in a first direction relative to the longitudinal axis of the rotatable drive shaft.
18. (Previously Presented) The apparatus of claim 13, wherein the shift member is configured to pivot at approximately a 45 degree angle in a second direction relative to the longitudinal axis of the rotatable drive shaft.

40059-0007

10/686,111

19. (Currently Amended) The apparatus of claim 13, further comprising a torque limiter resistively mounted on the rotatable drive shaft, wherein the gear mechanism assembly is mounted on the torque limiter.

20. (Currently Amended) The apparatus of claim 19, further comprising a shift base assembly mounted on the torque limiter, the shift member gear assembly being mounted on the shift base assembly, wherein the shift base assembly is configured to selectively change the orientation of the shift member to engage and drive the drive cone unit as the rotatable drive shaft moves in the first rotational direction and to engage and drive the reel unit as the rotatable drive shaft moves in the second rotational direction.

21. (Currently Amended) A method for adapting a reel apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

- (a) collecting the rope on a reel unit, the reel unit being mounted to freely rotate about the rotatable drive shaft;
- (b) collecting the swimming pool cover on a roll-up tube being driven by a drive cone unit, the drive cone unit being mounted to freely rotate about the rotatable drive shaft assembly;
- (c) driving the reel unit in a first rotational direction as the rotatable drive shaft rotates in a first direction, and driving the drive cone unit in a second rotational direction as the rotatable drive shaft rotates in a second direction, ~~wherein the steps of driving the reel unit or the drive unit include pivoting a shift member to engage the reel unit or the drive unit;~~
- (d) pivoting ~~the a~~ shift member in a first pivoting direction to engage the reel unit as the rotatable drive shaft rotates in the first direction;
- (e) pivoting the shift member in a second pivoting direction to engage the drive cone unit as the rotatable drive shaft rotates in the second direction; and
- (f) selectively reversing the first rotational direction of the ~~wind-up~~ reel unit and the second rotational direction of the drive cone unit.

22. (Currently Amended) The method of claim 21, wherein the rope is collected to extend the swimming pool cover as the rotatable drive shaft moves in the first rotational

40059-0007

10/686,111

direction, and the swimming pool cover is collected as the rotatable drive shaft moves in the second rotational direction.

23. (Cancelled)

24. (Previously Presented) The method of claim 21, further comprising the step of mounting the shift member to enable the shift member to pivot with the pull of gravity.

25. (Cancelled)

26. (Currently Amended) The method of claim 21, further comprising mounting the shift member on a shift base member so that the shift member can pivot at approximately 45 degrees with respect to the longitudinal axis of the rotatable drive shaft.

27. (Currently Amended) The method of claim 21, further comprising changing the orientation of the shift member to drive the drive cone unit as the rotatable drive shaft rotates in the first direction, and to drive the reel unit as the rotatable drive shaft rotates in the second direction.

28. (Previously Presented) The method of claim 27, wherein the change of orientation step comprises removably attaching the shift member on the rotatable drive shaft alternately in a first position or in a second position.

29. (Previously Presented) The method of claim 28, wherein the second position of the shift member on the rotatable drive shaft is disposed approximately 90 degrees from the first position.

30. (Previously Presented) The method of claim 21, further comprising mounting a torque limiter on the rotatable drive shaft in association with the shift member.

31. (Currently Amended) A shift apparatus for a swimming pool cover motor having a rotatable drive shaft and a rope attached to the end of the swimming pool cover, comprising:

40059-0007

10/686,111

(a) a reel unit ~~for collecting the rope, the reel element being~~ mounted to freely rotate about the rotatable drive shaft;

(b) a drive cone unit ~~for collecting the swimming pool cover, the drive unit being~~ mounted to freely rotate about the rotatable drive shaft ~~assembly~~;

(c) a gear mechanism ~~assembly~~ driven by the rotatable drive shaft, the gear mechanism ~~assembly~~ including a shift member configured to pivot to a first position to engage and drive the reel unit in a first rotational direction as the rotatable drive shaft rotates in a first direction and to pivot to a second position to engage and drive the drive cone unit in a second rotational direction as the rotatable drive shaft rotates in a second direction; and

(d) a torque limiter ~~element~~ mounted on the rotatable drive shaft and connected to the gear mechanism ~~assembly~~ to drive the gear mechanism ~~assembly~~ in response to the rotatable drive shaft.

32. (Currently Amended) The shift apparatus of claim 31, wherein the torque limiter ~~element~~ is connected to the gear mechanism ~~assembly~~ to limit the amount of torque applied to the gear mechanism ~~assembly~~.

33. (Currently Amended) The shift apparatus of claim 31, wherein the torque limiter ~~element~~ comprises a hub connected to the rotatable drive shaft, the hub being in compression by a ring clamp around the hub.

34. (Original) The shift apparatus of claim 33, further comprising a split ring between the hub and the ring clamp.

35. (Currently Amended) The shift apparatus of claim 31, wherein the gear mechanism ~~assembly~~ is mounted on the torque limiter ~~element~~.

36. (Currently Amended) The apparatus of claim 13, wherein the gear mechanism ~~assembly~~ includes a shift base, and wherein the shift member is pivotably mounted on the shift base.

40059-0007

10/686,111

37. (Currently Amended) The apparatus of claim 36, wherein the shift member is configured to pivot on the shift base to selectively engage the reel unit or the drive cone unit.

38. (Currently Amended) The apparatus of claim 36, wherein the shift base is configured to be removably mounted on the rotatable drive shaft attached to the gear assembly in a first base position or a second base position.

39. (Previously Presented) The apparatus of claim 38, wherein the second base position is disposed approximately 90 degrees from the first base position.

40. (Currently Amended) The apparatus of claim 38, wherein the first base position of the shift base orients the shift member to engage the reel unit as the rotatable drive shaft rotates in the first rotational direction and to engage the drive cone unit as the rotatable drive shaft rotates in the second rotational direction, and wherein the second base position of the shift base orients the shift member to engage the drive cone unit as the rotatable drive shaft rotates in the first rotational direction and to engage the reel unit as the rotatable drive shaft rotates in the second rotational direction.

41. (Previously Presented) The apparatus of claim 19, wherein the torque limiter comprises a hub connected to the rotational drive shaft, the hub being in compression by a ring clamp around the hub.

42. (Previously Presented) The apparatus of claim 41, wherein the torque limiter further comprises a split ring between the hub and the ring clamp.

43. (Cancelled)

44. (Currently Amended) A universal shift apparatus, comprising:

- (a) a rotatable drive shaft;
- (b) a reel unit ~~for collecting a rope, the reel unit being~~ mounted to freely rotate about the rotatable drive shaft;

40069-0007

10/686,111

(c) a drive cone unit ~~configured to be coupled to a roll up tube for collecting a pool cover, the drive unit being~~ mounted to freely rotate about the rotatable drive shaft; and

(d) a gear mechanism assembly mounted to be driven by the rotatable drive shaft, the gear mechanism assembly including a shift assembly member mounted on a shift base, the shift member being configured to engage and drive the reel unit as the rotatable drive shaft moves in a first rotational direction and to engage and drive the drive cone unit as the rotatable drive shaft moves in a second rotational direction, wherein the shift base assembly is configured to be removably mounted on the rotatable drive shaft attached to the gear assembly at either a first position or a second position.

45. (Previously Presented) The apparatus of claim 44, wherein the second position is disposed approximately 90 degrees from the first position.

46. (Currently Amended) The apparatus of claim 44, wherein the shift base assembly is configured so that, in the first position, the universal shift apparatus is configured for implementation in a right-handed pool cover motor assembly.

47. (Currently Amended) The apparatus of claim 44, wherein the shift base assembly is configured so that, in the second position, the universal shift apparatus is configured for implementation in a left-handed pool cover motor assembly.

48. (Currently Amended) The apparatus of claim 44, wherein a change of the shift base assembly from the first position to the second position is configured to reverse the rotational direction that will cause the shift member assembly to engage the reel unit.

49. (Currently Amended) The apparatus of claim 44, wherein a change of the shift base assembly from the first position to the second position is configured to reverse the rotational direction that will cause the shift member assembly to engage the drive cone unit.

50. (Currently Amended) The apparatus of claim 44, wherein the first position of the shift base assembly orients the shift member assembly to engage the reel unit as the rotatable drive shaft rotates in the first rotational direction and to engage the drive cone unit as the

40059-0007

10/686,111

rotatable drive shaft rotates in the second rotational direction, and wherein the second position of the shift base assembly orients the shift member assembly to engage the drive cone unit as the rotatable drive shaft rotates in the first rotational direction and to engage the reel unit as the rotatable drive shaft rotates in the second rotational direction.

51. (Currently Amended) The apparatus of claim 44, wherein ~~the shift assembly comprises a shift base and a shift member,~~ the shift member is being configured to pivot on the shift base to selectively engage the reel unit or the drive cone unit.

52-54. (Cancelled)